ILM05.0 Major Changes

Exhibit A

Section(s)	Change(s) - Exhibit A
2.0	Added "...and quantitative measurement of indicated elements/analytes in water, soil/sediment, and/or air filter samples."
4.2.1.2.3.3	Added language to incorporate requirements for using an alternative means of determining the cooler temperature.
4.2.1.2.3.5	Added language to incorporate requirements for recording cooler temperature on Form DC-1.
4.2.1.3	Added language regarding the performance of modified analyses.
4.2.2.2.1	Added "(excluding PE samples)" to the second bulleted item. The definition of an SDG has been modified to include a seven calendar day period, during which field samples in a Case are received. Added a final bullet including the requirement that "all samples and/or sample fractions assigned to an SDG must have been scheduled under the same contractual turnaround time".
4.2.2.2.2	Added language regarding the SDG assignment of PE samples.
4.2.2.2.3	Added language to deal with the situation in which no QC sample is designated on the Traffic Report.
4.2.2.2.4	Modified the delivery schedule from "5 working days" to "3 working days".
4.2.2.3.3	Added language regarding the designation and analysis of multiple QC samples. Added language designating SMO as the contact for Contractor issues regarding the designation and analysis of QC samples.
4.2.2.3.4	Modified the abbreviation for "laboratory control sample" from "LCS" to "LCSW".
4.2.2.4.1	Removed "initially" and added "for multi-element analysis" to the first sentence. Added language allowing the analysis of diluted samples.
4.2.2.4.2	Added language stating the requirements for diluted/undiluted single analyte analyses.

Section(s)	Change(s) - Exhibit A
4.2.3.1	Added language regarding ICP-MS instrumentation requirements.
4.2.3.1, 4.2.3.4	Added language regarding an electronic transmission option for data submission.
4.3.2.2	Added language regarding instrumentation requirements for Classical Chemistry Parameters.

Exhibit B - Text

Forms IVB-IN, XIV-IN, and XV were added as a result of the addition of ICP-MS as an acceptable method of analysis. Form VIII-IN (Standard Addition Results) was removed as a result of the removal of Flame and Furnace AA as acceptable methods of analysis. Form numbers have changed as a result of these additions and deletion. All references to these forms have been changed throughout the Statement of Work.

Section(s)	Change(s) - Exhibit B - Text
1.1	Added the sentence “The turnaround times for Items B through E are 7, 14, and 21 days.” Modified the reference regarding Contractor notification of distribution names and addresses from the “Administrative Project Officer” to the “AOC Inorganic Program Manager”.

Section(s)	Change(s) - Exhibit B - Text
1.1 (Table 1)	Changed all asterisk superscripts to numerical letters. Footnote “A” was added, clarifying the number of copies required to be delivered to each recipient. Footnote “B” clarified that a Contractor may be required to submit a Sample Data Package to another recipient upon EPA request. Footnote “C” was added to reference the Contractor contracts for the turnaround times. Modified Item A under delivery schedule from “5 working days” to “3 working days”. Modified Footnote “1”, the definition of an SDG, to 7 days or less for all turnaround times. Under Footnote “2”, the “diskette” has been changed to “electronic deliverable”. Footnote “4” was added to address Preliminary Results (Item F) and the delivery schedule. Modified language regarding sample disposal in Footnote “6”. Added deliverable requirements regarding Method, IPR, and MDL Studies (Item J). Added an asterisk for Item J referencing the delivery to Inorganic Program Manager at EPA AOC. Added Item F, “Preliminary Results” as a deliverable requirement. Added Item K, “Electronic Instrument Data” as a deliverable requirement.
1.2	The address for the USEPA Contract Laboratory Program has been changed to account for the move of CLASS personnel to Reston, VA. Footnote “2” was modified to indicate that the QATS contract is awarded/administered by the EPA.
2.1	Modified the third bullet to reference Section 2 for order of the reports. Added a note in reference to double-sided Complete SDG Files (CSF).
2.2.1	Modified “Administrative Project Officer/Technical Project Officer” to “EPA Project Officer”.
2.2.1, 2.2.2, 2.6, 2.6.2	Added language regarding the resubmission of data and when to send a copy to the EPA designated recipient.
2.2.2	“Diskette deliverables” was changed to “electronic deliverables”.
2.3	Language was added referencing Exhibits E and F for Quality Assurance Plan and Standard Operating Procedures requirements.

Section(s)	Change(s) - Exhibit B - Text
2.4	Added language regarding Sample Traffic Reports and the information required to be reported.
2.4.2	Added language requiring sample number of the first “and last” sample in the SDG. Added “and continuous (without spaces or hyphens)” regarding EPA field sample numbers. Added language regarding duplicate SDG numbers within a Case.
2.5	Added language including laboratory fortified blanks and laboratory control samples as part of the Sample Data Package. Removed re-analyses from the Sample Data Package. Added language regarding the order for submitting Inorganic analyses and Classical Chemistry Parameters data forms and raw data. Added language requiring the Contractor to retain a copy of the Sample Data Package for 365 days.
2.5.1.1	Added language incorporating Classical Chemistry Parameters on the Cover Page. Removed language regarding comments on the Cover Page.
2.5.1.2	Added language for the requirement of an SDG Narrative.
2.5.2	Added Classical Chemistry Parameters in the submission of data reporting forms.
2.5.2.1	Added Classical Chemistry Parameters Data Sheet. Modified language regarding the reporting of tabulated analytical results to include requested analytes or parameters. Modified the reference of “he/she” to “the Laboratory Manager”. Added language requiring the Contractor to report analytical problems in the SDG Narrative.
2.5.2.1.1	Added language requiring the reporting of quantitative values for air samples.
2.5.2.1.2	Added language for reporting the appropriate concentrations and units.

Section(s)	Change(s) - Exhibit B - Text
2.5.2.2.1	Added language referencing the quality control summary for Classical Chemistry Parameters in Section 2.5.2.2.2. Added requirements for the submission of duplicate forms.
2.5.2.2.1.2	Modified the form title to specify ICP-AES.
2.5.2.2.1.5	Added a section listing Form IVB-IN (ICP-MS Interference Check Sample).
2.5.2.2.1.10	Removed this section listing Form VIII-IN (Standard Addition Results). All subsequent section numbers affected by this deletion were corrected. Modified the title of the new Form VIII-IN to reflect both ICP-AES and ICP-MS. The title is now “ICP-AES and ICP-MS Serial Dilutions”.
2.5.2.2.1.11, 3.4.2.2.5, 3.4.2.2.6.1, 3.4.9.2.9, 3.4.12, 3.4.12.1, 3.4.12.2.4, 3.4.12.2.6	Replaced “Instrument” with “Instrument/Method” when referencing detection limits.
2.5.2.2.2, 2.5.2.2.2.1 - 2.5.2.2.2.9	Added language on quality control for Classical Chemistry Parameters and listed the nine forms. Added requirements for the submission of duplicate forms.
2.5.2.3	Added language for submission of Classical Chemistry raw data.
2.5.2.3.1	Added “(MDL for Classical Chemistry)”. Added language distinguishing ICP-MS from ICP-AES.
2.5.2.3.2	Removed language regarding Flame and Furnace AA.
2.5.2.3.3	Added language regarding the order of the submission of the raw data in the data package for Classical Chemistry Parameters.
2.5.2.3.4	Added language regarding making corrections to the laboratory data reporting forms.
2.5.2.3.5	Added “(LFB Standard for Classical Chemistry)” as raw data that shall be labeled with EPA sample numbers and appropriate codes. Removed bullets eight and ten, which dealt with Flame and Furnace AA.

Section(s)	Change(s) - Exhibit B - Text
Table 2	Added to Table 2: Classical Chemistry instrument calibration standards, laboratory fortified blank, air matrix to laboratory control samples, air preparation blank, baseline correction, reslope, cyanide mid-range standard, and ICP-MS tune check. Consolidated the “Analytical Spike” and “Post Digestion/Distillation Spike” codes. Removed from Table 2: MSA, Footnote “1" and Footnote “4".
2.5.2.4	Added language regarding the submission of digestion/distillation logs for each preparation procedure. Added requirements for the submission of logs for ammonia (if distilled), total phosphorus, hexavalent chromium (if digested), total petroleum hydrocarbons, and any other preparation utilized as part of the digestion and distillation log order. Added language requiring that notes be entered in the SDG Narrative as well as the log. Removed language regarding Flame and Furnace AA.
2.6.2.3	Added language for the procedure to follow when an airbill is not received.
2.6.2.6, 2.6.3	Replaced “case-specific documents” with “SDG-specific documents”.
2.7	Added a reference to Exhibit H regarding the computer readable copy of the SDG, and specified that it should be delivered as in Section 1.1. Removed language regarding “antiquated” means of transferring electronic data. Added language to support an alternative means of electronic transmission, if approved of in advance.
2.9	Added language regarding the reporting of Preliminary Results.
2.10	Modified “Quarterly and Annual Verification Instrument Parameters” to “Quarterly and Annual Verification Inorganic Instrument Parameters”.
2.11	Added language for Annual Verification of Method Parameters for Classical Chemistry.
2.12	Added language to allow for the delivery of Electronic Instrument Data. The Contractor is referred to Exhibit E for requirements.

Section(s)	Change(s) - Exhibit B - Text
3.1	Incorporated Classical Chemistry as part of the Introduction to the Forms Instructions.
3.2.1	Modified “diskette deliverable” to “electronic deliverable”.
3.2.2	Modified “EPA Administrative Project Officer” to “EPA Project Officer”.
3.2.2, 3.4.2.2.2, 3.4.5.2.1, 3.4.5.2.7, 3.4.10.1, 3.4.10.2.2 - 3.4.10.2.4, 3.4.10.2.10, 3.4.10.2.11, 3.4.16.2.4	Added “air” as a matrix.
3.3	Added “Except as noted for SAS No.,” in the header information.
3.3.3	Added language regarding procedures for changing a Lab Code.
3.3.5	Removed the note referencing samples having SAS Numbers.
3.3.6	Added language regarding the duplication of SDG numbers within a Case.
3.3.7	Replaced “upper right-hand corner of the form” with “header information”.
3.3.7.1	Added serial dilutions to the list of items required to have an EPA sample number.
3.3.8	Added “AIR” as a matrix for air samples. Added language regarding how <u>not</u> to record the air matrix.
3.3.9	Modified the rounding rule to read “If the figure is greater than or equal to 5 round up; otherwise, round down.”
3.3.9.1	Added an example regarding the rounding of percent recoveries. Added Classical Chemistry Parameter Forms in the Note regarding the transcription of raw data.

Section(s)	Change(s) - Exhibit B - Text
3.4.1.2, 3.4.2.2, 3.4.3.2, 3.4.4.2, 3.4.5.2, 3.4.6.2, 3.4.7.2, 3.4.8.2, 3.4.9.2, 3.4.10.2, 3.4.11.2, 3.4.12.2, 3.4.13.2, 3.4.15.2, 3.4.16.2, 3.4.17.2	Added “Section 3.3. Complete the remainder of the form using the following instructions.”
3.4.1.2.1	Modified the SOW number from “ILM04.0" to “ILM05.0".
3.4.2.2.1, 3.4.12.2.3, 3.4.13.2.2, 3.4.15.2.2, 3.4.16.2.3, 3.4.17.2.3, 3.4.17.2.4	Replaced all year references of “YY” with “YYYY”.
3.4.2.2.3	Added language regarding the recording of air sample volume.
3.4.2.2.4	Added the units for air “MG/M^3”.
3.4.2.2.6.2	Removed the “S”, “M”, and “W” qualifiers as a result of the removal of Flame and Furnace AA.
3.4.2.2.6.3	Removed the following Method Qualifier’s and definitions - “PM”, “AM”, “FM”, “CA”, “T”, “A”, and “F”. Added the Method Qualifier “MS” for ICP-MS.
3.4.2.2.7	Added language indicating that a physical description of the sample (before or after digestion) is not needed for air.
3.4.3.1	Modified “calibration solutions” to “calibration verification solutions”.
3.4.3.2.1	Removed language specific to Initial Calibration Verification solutions prepared by the EPA. Modified “Initial Calibration Source” and “Continuing Calibration Source” to “Initial Calibration Verification Source” and “Continuing Calibration Verification Source”, respectively.

Section(s)	Change(s) - Exhibit B - Text
3.4.3.2.4, 3.4.3.2.8, 3.4.4.2.4, 3.4.4.2.7, 3.4.4.2.9, 3.4.6.2.7, 3.4.6.2.11, 3.4.7.2.8, 3.4.8.2.6, 3.4.9.2.9, 3.4.10.2.4, 3.4.10.2.9, 3.4.11.2.4	Added “to the nearest whole number”.
3.4.3.2.6	Removed the last sentence, regarding the right-hand column being left blank if no CCV was performed.
3.4.3.2.10	Added language to allow for the reporting of mass (in amu).
3.4.4.2.3, 3.4.4.2.6, 3.4.4.2.8	Added “If applicable, enter the concentration qualifier “B” or “U” after the concentration (e.g., 1.96B for Lead).”
3.4.5.2.2	Added concentration units for the air matrix.
3.4.5.2.6	Removed the first sentence, regarding the case in which only one CCB is analyzed.
3.4.5.2.8	Modified numbers within the example for reporting analyte concentration.
3.4.5.2.10	Added language to allow for the reporting of mass (in amu).
3.4.6.2.1	Modified ICP “ID Number” to “ICP Instrument ID”.
3.4.6.2.3, 3.4.6.2.4	Added “Enter “0” for each analyte with no specified true value in Solution” A or AB, respectively.
3.4.6.2.5, 3.4.6.2.6, 3.4.6.2.7, 3.4.6.2.8, 3.4.6.2.9, 3.4.6.2.12, 3.4.6.2.13	Modified language to account for the addition of Form IVB-IN (ICP-MS Interference Check Sample).
3.4.6.2.11	Modified language to specify ICP-AES.
3.4.6.2.13	Added language to allow for the reporting of mass (in amu).
3.4.7.2.4	Added language regarding the Control Limit %R value.
3.4.7.2.9	Added “. . .and the Sample Result (SR) is less than or equal to four times the Spike Added (SA).”

Section(s)	Change(s) - Exhibit B - Text
3.4.9.2.5	Added “. . .or if the sample and duplicate values were less than the CRDL. . .”
3.4.9.2.10	Added “sample and duplicate”.
3.4.10.2.1	Added “For the Air LCS source, enter the source name (12 spaces maximum) as explained in Section 3.4.3.2.1.”
3.4.11	Removed this section and all subsections which contained the instructions for Form VIII-IN (Standard Addition Results). Subsequent section numbers were modified to reflect this change. Modified the title of the new Form VIII-IN to account for the addition of ICP-MS. Form VIII-IN is now entitled “ICP-AES and ICP-MS Serial Dilutions”.
3.4.11.1	Added language to account for the addition of ICP-MS.
3.4.11.2.2, 3.4.11.2.3	Modified language regarding the instructions for the initial sample result and serial dilution result, respectively.
3.4.12.2.1	Referenced Analysis Method qualifiers in Section 3.4.2.2.6.3.
3.4.12.2.2	Added language regarding the use of Instrument IDs.
3.4.12.2.4	Added language allowing the reporting of mass (in amu).
3.4.12.2.4, 3.4.12.2.6	Replaced “IDL” with “IDL/MDL”.
3.4.12.2.5	Removed language regarding Furnace AA.
3.4.12.2.6	Added “...to two significant figures for values less than 10, and three significant figures for values greater than or equal to 10”. Added “(e.g., 14.82 rounds to 14.9 and 146.6 rounds to 147).” Modified the reference to “EPA rounding rule” to “rounding rule”.
3.4.12.2.8	Added language allowing for the reporting of mass (in amu).
3.4.15	Modified title of Form XI-IN to account for the addition of ICP-MS.
3.4.15.2.4	Removed language stating “Any measurement in the SDG data package at or below this concentration is within the linear range”.

Section(s)	Change(s) - Exhibit B - Text
3.4.15.2.6	Added language to allow for the reporting of mass (in amu).
3.4.16.2.1	Modified preparation method codes. Removed all references to Flame and Furnace AA. Added Method Codes for ICP-MS.
3.4.17.1.2	Added tunes to the list of quality control analyses. Removed all quality control analyses associated purely with Flame and Furnace AA.
3.4.17.2.1	Added language requiring the Instrument ID to match on all respective forms.
3.4.17.2.7	Modified reference to a dilution factor of “1" to “1.00".
3.4.17.2.9	Removed language regarding the reporting of the use of an autosampler.
3.4.17.2.10	Removed language regarding %R for Furnace AA analytical spikes and renumbered subsequent sections to account for this deletion.
3.4.17.2.11	Removed language regarding the use of a %R value of “-9999.9” and renumbered subsequent sections to account for this deletion.
3.4.18	Added section containing the instructions for the new Form XIV-IN (ICP-MS Tune).
3.4.19	Added section containing the instructions for the new Form XV-IN (ICP-MS Internal Standards Relative Intensity Summary).
3.5	Added the entire section and sub-sections on Classical Chemistry Forms.
3.6.2.1	Added language regarding the procedure to follow if airbills are not received.
3.6.2.6	Added item for recording cooler temperature (Item 9).
3.6.2.11	Added language requiring that all comments be made in the “Remarks” column.
3.6.2.14	Added “or an answer marked with an asterisk (e.g., “absent*”) was circled”.
3.7.1	Added the purpose of the Document Inventory Sheet.
3.7.2.1	Added language requiring that the Contractor verify and record all gaps in the page numbering sequence of the CSF.

Section(s)	Change(s) - Exhibit B - Text
4.0	Added “The data reporting forms are shown on the following pages.”

Exhibit B - Forms

The following items were modified on the Inorganic and Classical Chemistry Parameters Forms: Field sizes were modified, underscores were removed, and information below the header information has been presented in a tabular format. Some form numbers have been changed due to the addition of forms as a result of ICP-MS, and the deletion of forms as a result of the removal of Flame and Furnace AA.

Form(s)	Change(s) - Exhibit B - Forms
Cover Page	Removed reference to Inorganic Analyses Data Package. Added references to ICP-MS in the questions presented on the form. Added language regarding the submission of an alternative means of electronic transmission.
I-IN	Added “air” as a matrix and its associated concentration units. Added “Air Volume Sampled (L)”. Added the CAS No. for Cyanide.
IIA-IN	Modified “Initial Calibration Source” and “Continuing Calibration Source” to “Initial Calibration Verification Source” and “Continuing Calibration Verification Source”, respectively.
IIB-IN	Added an asterisk for the concentration qualifier’s “B” and “U”.
III-IN	Added “air” as a matrix and specified the associated concentration units with an asterisk.
IVA-IN, XA-IN, XB-IN, XI-IN	Modified ICP ID Number to ICP Instrument ID (with appropriate specifications for ICP-AES or ICP-MS).
IVB-IN	Added new Form, “ICP-MS Interference Check Sample”.
VII-IN	Added “Air LCS Source” and “air” as one of the matrices.
VIII-IN	Removed the form “Standard Addition Results”. Subsequent form numbers were changed to reflect this removal.
VIII-IN	Added “Air” as a matrix. This form, “ICP-AES and ICP-MS Serial Dilutions”, was formerly Form IX-IN.

Form(s)	Change(s) - Exhibit B - Forms
IX-IN	Modified ICP ID Number to Instrument ID. Added field for Instrument Type. Modified CRDLs to remain consistent with Exhibit C. This form, “Instrument/Method Detection Limits (Quarterly)”, was formerly Form X-IN.
XA-IN & XB-IN	These forms, “ICP-AES Interelement Correction Factors (Annually)”, were formerly Forms XIA-IN and XIB-IN.
XI-IN	This form, “ICP-AES and ICP-MS Linear Ranges (Quarterly)”, was formerly XII-IN.
XII-IN	Modified “Method” to read “Preparation Method”. This was formerly Form XIII-IN.
XIII-IN	Modified “Method” to read “Analysis Method”. Modified Instrument ID Number to Instrument ID. This was formerly Form XIV-IN.
XIV-IN	Added the form “ICP-MS Tune”.
XV-IN	Added the form “ICP-MS Internal Standards Relative Intensity Summary”.
DC-1	Added Remark “9” for Cooler Temperature and re-numbered remaining sections to account for the addition.
DC-2	Added SDG Narrative field. Moved Traffic Report, SDG Cover Sheet, and the Sample Login sheet to items 3, 4, and 2, respectively. Added fields to this form to reflect the result of the deletion and addition of forms(VIII-IN, XIV-IN and XV-IN) and methods (Flame and Furnace AA, ICP-MS).
Classical Chemistry Parameter Forms	All these forms are new to the SOW.

Exhibit C

Section(s)	Change(s) - Exhibit C
Table 1: Inorganic Target Analyte List and Contract Required Detection Limits	Antimony: modified CRDL from 60 to 5. Arsenic: modified CRDL from 10 to 5. Barium: modified CRDL from 200 to 20. Beryllium: modified CRDL from 5 to 1. Cadmium: modified CRDL from 5 to 2. Chromium: modified CRDL from 10 to 5. Cobalt: modified CRDL from 50 to 5. Copper: modified CRDL from 25 to 5. Manganese: modified CRDL from 15 to 10. Mercury: modified CRDL from 0.2 to 0.1. Nickel: modified CRDL from 40 to 20. Silver: modified CRDL from 10 to 5. Thallium: modified CRDL from 10 to 5. Vanadium: modified CRDL from 50 to 10. Zinc: modified CRDL from 20 to 10. Added the CAS Numbers for all Inorganic analytes.
Table 2: Classical Chemistry Parameters and Contract Required Quantitation Limits	The entire table was added to the SOW.

Exhibit D

The sections regarding Flame and Furnace Atomic Absorption methods have been removed in the SOW. Exhibit D has also been reorganized to be compliant with EPA EMMC specifications. ILM04.0's Exhibit E, Section V - Required QA/QC Operations - was moved to the respective sections in Exhibit D, ILM05.0. All references to “Type II reagent water” and “deionized distilled water” were changed to “reagent water”. References to “air samples” have been added to account for the expanded matrices of samples that these methods may be used for. In addition, most references to “extracts” have been replaced with “distillates” and all references to the “titrimetric method” have been removed.

Exhibit D has been reorganized to consolidate Sample Preservation and Holding Times, Sample Preparation, Sample Analysis, and QA/QC into one place for each Instrument. Each section of Exhibit D is complete in these aspects for a specific instrument.

Exhibit D - Introduction

Section(s)	Change(s) Exhibit D - Introduction
1.0	Added general language regarding the purpose of the analytical methods contained within the various sections of Exhibit D, as well as general information for Contractors who wish to propose their own methodologies.
1.1	Added “standard trace metals and cyanide” as the analyses.
1.2	Added “any other specified requirements” as additional requirements to be followed.
1.3	Modified name from “Initial Run Undiluted” to “Run Undiluted”. Added “for multi-element analysis”. Added language allowing a dilution to be run when the adjusted detection limits for the analytes are less than the CRDL. Added language regarding instrument reading requirements when analyzing sample dilutions. Added language regarding the analysis of single analytes.
1.4	Removed section from ILM04.0 referring the reader to Exhibit E for QA/QC measurements, as these have been moved from Exhibit E to the individual sections of Exhibit D.
1.7	Added language to incorporate Classical Chemistry Parameters and aqueous samples requirements when checking pH.
1.8	Replaced “EPA Administrative Project Officer or Technical Project Officer” with “EPA Project Officer”.
1.10	Added section regarding replicate injections and exposures. The following section numbers were adjusted to account for this change.
1.11	Added air as a possible matrix in Figure 1.
1.12	Added language to address Safety.
1.13 - 1.13.2	Added language to address Pollution Prevention.
1.14	Added language to address Waste Management.

Exhibit D - Part A - ICP-AES

Section(s)	Change(s) - Exhibit D - ICP-AES
1.0	Modified the Scope and Application for ICP-AES.
2.1	Added language regarding a summary of the method for water, soils, and air.
4.1	Added language regarding different types of interferences for water, soils, and air filters.
4.1.1.4	Removed a paragraph regarding interferences and available information on silver and potassium.
4.1.2	Removed language regarding the utilization of the standard addition technique.
6.0	Added general language regarding equipment and supplies.
6.1, 6.1.3, 6.1.4, 6.1.5, 6.1.8, 6.10	Added the following equipment and supplies - Glassware/labware, funnels, graduated cylinders, various volumetric flasks (Type A), hot plate, block digester or other heating source, and balances - analytical balance, 300g capacity, and minimum ±0.01 g, respectively.
7.1.1	Modified the language for reagent water specifying its use for all reagents, standards, and dilutions of solutions.
7.1.8	Added the reagent nitric acid and instructions.
7.2.1	Added language regarding the Contractor’s use of standards.
7.2.3, 7.2.3.1	Added language for preparing mixed secondary dilution standards.
7.2.4.5.1	Removed language regarding initial verification and monitoring of calibration standards.
7.2.4.5.7	Added language regarding the storage of samples and standards.
8.2	Modified “analysis” to “digestion”.
8.3	Added language regarding sample storage.
8.4-8.4.2	Added language regarding sample digestate storage.
9.1	Modified section title from “Instrument Operating Conditions” to “Instrument Operating Parameters”.
9.3.1	Removed reference to guidelines for instrument calibration in EPA 600/4-79-020.
9.3.2	Removed reference of the preparation and discarding of calibration standards.
9.3.4	Removed reference to the acceptability of baseline correction and resloping and re-numbered sections to account for this deletion.

Section(s)	Change(s) - Exhibit D - ICP-AES
9.6	Added a note regarding the procedure and order for running a CCB and CCV. Added a reference to the calibration blank (ICB/CCB) exceeding the CRDL.
10.1.1 - 10.1.2.2	Added language regarding sample preparation and the procedures to follow when insufficient sample amounts and multiphase samples are received.
10.1.3.1	Modified the section title from “Acid Digestion Procedure” to “Preparation Method/Code (HW1)”.
10.1.3.1, 10.1.4.1.2, 10.1.4.2.2	Modified heat source from heat on a “steam bath” to “hot plate, block digestor,”.
10.1.3.2	Modified the section title from “Water Sample Digestion Procedure” to “Preparation Method/Code (MW1)”.
10.1.3.2.4, 10.1.3.2.10	Modified language to clarify the vessel mentioned is an “overflow vessel”.
10.1.3.2.11	Added language to specify that the filters used are to be “Whatman No.41 (or equivalent)”.
10.1.3.3 - 10.1.3.3.4	Added a second microwave digestion procedure named “Preparation Method/Code (MW2)”.
10.1.4.1	Modified the section title for soil/sediment sample preparation to “Preparation Method/Code (HS1)”.
10.1.4.2	Modified a second soil/sediment preparation procedure named “Preparation Method/Code (HS2)”.
10.1.4.2.2, 10.1.4.2.5	Added additional procedures for sample preparations.
10.1.4.3	Modified the section title from Soil Sample Digestion to “Preparation Method/Code (MS1)”.
10.1.4.4 - 10.1.4.4.8	Added a procedure for air sample preparation called “Preparation Method/Code (HA1)”.
10.2.1	Added language to specify that the vessels to be used are “PFA Teflon digestion vessels”.
10.3.3	Removed sentence requiring that the system be flushed with the calibration blank between each standard.
10.3.4	Removed this section regarding flushing the system and re-numbered remaining sections to account for the deletion.
11.1	Added an equation to the “Corrections For Sample Dilutions” section.
11.2	Added an equation to the “Aqueous Sample Calculation” section.

Section(s)	Change(s) - Exhibit D - ICP-AES
11.4	Added an equation to the “Air Sample Calculation” section.
12.4.1	Added language for Calibration Blanks (ICB/CCB) and how they are prepared.
12.4.2.3.2, 12.4.2.3.3, 12.8.2	Added language to include the “appropriate QC”.
12.4.2.3.4	Added units for the preparation blank for air.
12.5.3	Added section regarding the Interferent Check Samples. Subsequent section numbers were changed to account for this addition.
12.5.4	Modified requirements that analytical results for analytes with CRDL < 10 ug/L should stay within ± 3 times the CRDL of the analytes true value in the ICSA.
12.6.1 - Footnote 4	Added EPA Project Officer as an authorized requestor of additional spike sample analyses.
12.6.1, 12.7.2	Removed “concentration” from the requirements of an analysis.
12.6.2, 12.7.2	Included Performance Evaluation samples with field blanks as samples not to be used for spiked sample analysis or duplicate sample analysis.
12.6.5	Added a note regarding the requirement for a post-digestion spike analysis.
12.7.1 - Footnote 5	Added EPA Project Officer as an authorized requester for additional duplicate sample analyses.
12.7.3	Modified “solid original and duplicate samples” to “solid original and solid duplicate samples”. Modified language for reporting a value in the Control Limit field.
12.7.4	Modified language to clarify this section regarding duplicate sample analysis.
12.8.1	Modified reference to Laboratory Control Samples to read “Aqueous, air, and solid Laboratory Control Samples...”.
12.8.1.2	Added language regarding the addition of an air Laboratory Control Sample.
12.9.1	Included Performance Evaluation samples with field blanks as samples not to be used for Serial Dilution Analysis. Added language for the addition of the air matrix.
12.9.2	Added “a control limit of” prior to the 10% that the dilution analysis must be within.

Section(s)	Change(s) - Exhibit D - ICP-AES
12.9.4	Modified “concentration” to “level” as a requirement that must be flagged in the SDG.
12.12	Modified Linear Range Analysis (LRA) to Linear Range Analysis Standard (LRS).
Tables 1 - 3	Removed Table 1-Recommended Wavelengths and Estimated IDLs; Table 2-Example of Analyte Concentration Equivalents from Interferents; and Table 3-Interferent and Analyte Elemental Concentrations Used in Table 2. (Renumbered remaining tables accordingly.)
Table 2	Added “or 55 mL (50 mL of sample plus 5 mL of acid)” to Footnote “1”. Modified the spiking levels to the appropriate levels for Antimony, Arsenic, Lead, Selenium, and Thallium. Removed section regarding the use of ICP-AES instead of GFAA. Removed references to other instrumentation.

Exhibit D - Part B - ICP-MS

This entire section is new to the SOW.

Exhibit D - Part C - Mercury

Section(s)	Change(s) - Exhibit D - Mercury
1.1	Modified the Scope and Application for Mercury.
1.3	Modified detection limit from 0.2 ug/L Hg to 0.1 ug/L Hg. Removed reference to Section 10.1.
1.4	Modified range of method for soil/sediments from “0.1 to 5 ug/g” to “0.05 mg/Kg to 5 mg/Kg”.
2.1	Added language to the Summary of Method section for waters by automated and manual techniques.
6.0	Added general language regarding equipment and supplies.
6.2.1	Modified “Technicon Auto Analyzer” to “Automated Analyzer”.
6.2.1.4	Removed reference to specific Technicon parts.
6.2.1.6	Removed size specifications for the absorption cell.
7.1.1.9	Removed specific concentrations of standards.
7.1.3.1	Added language regarding the Contractor’s use of standards.
7.1.3.2 - 7.1.3.2.2	Added language regarding the preparation of additional standards.
8.3	Added language regarding the procedure for sample storage.
8.4, 8.4.1	Added language regarding the holding times for water and soil samples.
9.1.3	Modified language requiring calibration standards to be prepared fresh with each preparation batch.
9.1.4	Added language regarding the acceptance criteria for the initial calibration curve.
10.1.1, 10.1.2, 10.1.2.1, 10.1.2.2	Added language regarding sample preparation and the procedures to follow when insufficient sample amounts and multiphase samples are received.
10.1.3.1.1, 10.1.4.1.1	Removed specifics on the sizes and content of the mercury aliquots.
10.1.3.1.2, 10.1.4.1.2	Added language in reference to the use of an autoclave.

Section(s)	Change(s) - Exhibit D - Mercury
10.1.3.1.3	Modified “peak height” to “instrument response at 253 nm”. Removed a “Note” referencing safety procedures of working with mercury.
10.1.3.2.1	Modified sample preparation name to “Preparation Method/Code (CW1)”.
10.1.3.2.1.2	Added “(until color is no longer purple).”
10.1.4.1	Removed language concerning the specific contents of the standards.
10.1.4.2.1	Modified the procedures name to “Preparation Method/Code (CS1)”.
10.2.4	Added the section title “Preparation Method/Code (CW2)”.
10.2.4.5	Removed a “Note” referencing safety procedures of working with mercury.
11.1.1, 11.2.1, 11.3.1	Modified “peak height” to “instrument response”.
11.3.2	Modified the equation for mercury concentration in the sample.
12.3.2	Added language indicating that there is no criteria established for the CRA analysis %R.
12.4	Added language regarding the preparation of the initial and continuing calibration blank.
12.4.2	Added section regarding the frequency of preparation blanks.
12.5.1, 12.6.1	Removed reference to “concentration” for spike and duplicate sample analyses.
12.5.2, 12.6.2	Included Performance Evaluation samples with field blanks as samples not to be used for spike and duplicate sample analyses.
12.5.3	Added specific requirements for the analyte spike.
Footnote 2, 3	Modified requestor for additional spike or duplicate samples as the EPA Project Officer.
12.6.3	Modified “solid original and duplicate samples” to “solid original and solid duplicate samples”. Modified language for reporting a value in the Control Limit field.
12.6.4	Modified language to clarify this section regarding duplicate sample analysis.

Exhibit D - Part D - Cyanide

Section(s)	Change(s) - Exhibit D - Cyanide
1.1	Modified the Scope and Application for Cyanide.
4.2	Added “The following should be done in the field:...”. Added lead carbonate as an alternate treatment if sulfides are present.
6.0	Added general language regarding equipment and supplies.
6.1.2, 10.3.1.2	Modified wavelength from “578 nm” to “580 nm”.
6.1.3	Replaced the specific reference to the Technicon AA II system to a more general “Automated Analyzer instrumentation”.
6.1.3.4	Modified wavelength from “570 nm” to “580 nm”.
7.1.1	Modified language for reagent water specifying its usage.
7.1.2.1, 7.1.2.6	Added “(Same Distillation and Preparation Reagent for Midi Distillation of Water and Soils.)”.
7.1.2.5	Added “Hydrochloric acid: (sp gr 1.19)”.
7.2.1	Added language regarding the Contractor’s use of standards.
7.2.3.1	Added language for preparing Secondary Dilution Standards.
7.2.4.1.1	Modified “Instrument Detection Limit Solution” to “standard solution”. Modified the reference to manufacturer’s recommended IDL to “expected IDL”.
8.2.1 - 8.2.3	Added language regarding the procedures for sample storage.
8.5	Removed section regarding the cleansing of bottles.
8.7, 8.8	Removed sections regarding the preservation and storage of samples.
9.3, 9.3.1 - 9.3.3	Added language regarding Spectrophotometric Instrument Calibration procedures.
9.5.1	Removed “for every wavelength used for the analysis of each analyte”.
9.6	Added a note regarding the procedure for running a CCB and CCV immediately.
10.1.1, 10.1.1.1 - 10.1.1.3	Added language regarding sample preparation and the procedures to follow when insufficient sample amounts and multiphase samples are received.
10.1.2.1	Removed preparation of standard solutions example.

Section(s)	Change(s) - Exhibit D - Cyanide
10.2.1.3	Added language for the procedure for pipetting the standard solution into volumetric flasks. Removed list of standards that may be used.
10.2.1.3.3	Removed language regarding standards being distilled.
10.2.1.4	Removed preparation of standards solutions example. Removed language regarding the distillation of standards.
10.2.2.1	Modified the name from Distillation to “Preparation Method/Code (DW1)”.
10.2.2.1.5, 10.2.4.1.6	Modified “a 2 times the concentration” to “a 2 fold concentration”.
10.2.3.1	Modified the name from Distillation to “Preparation Method/Code (DW2)”.
10.2.4.1	Modified the name from Distillation to “Preparation Method/Code (DS1)”.
10.2.5.1	Modified the name from Distillation to “Preparation Method/Code (DS2)”.
10.3.2	Removed the text “Non-Mini-” regarding distillates.
10.3.2.3	Modified “QC audits” to “QC samples”.
10.3.3 - 10.3.3.2	Removed sections regarding Semi-Automated Spectrophotometric Determination of Mini-Distillates.
11.1.1	Added “calorimetric determination (Non-Midi-Distillation)” to semi-automated calculations for water. Removed language regarding the minimum concentration that may be reported.
11.1.2	Modified “spectrophotometric” to read “colorimetric determination”. Added language signifying that the minimum value that can be substituted for A is the IDL value adjusted for volume. Removed language specifying the minimum value for substitution.
11.2.2.1	Added “the IDL value adjusted for volume”. Removed language specifying the minimum value for substitution.

Section(s)	Change(s) - Exhibit D - Cyanide
11.2.3	Added “for Non-Midi-Distillates” for Semi-Automated Spectrophotometric calculations for sediments. Added “the IDL value adjusted for volume”.
11.3.2.2	Added language regarding the minimum value that can be substituted for A.
12.3.1	Added language for Calibration Blanks (ICB/CCB) and how they are prepared.
12.3.2.3.2, 12.3.2.3.3, 12.6.3	Added language to include appropriate QC with analysis.
12.4.1	Removed “concentration” from the requirements of an analysis. Modified language to have the EPA Project Officer as the authorized requestor for additional spike samples in Footnote “2".
12.4.2	Included Performance Evaluation Samples with field blanks as samples not to be used for spiked sample analysis.
12.4.3	Modified “...in the amount...” to “...to yield a final concentration...”.
12.4.5	Added a note regarding the requirement of a post-distillation spike analysis.
12.5.1	Modified language to have the EPA Project Officer as the authorized requestor for additional duplicate samples in Footnote “3".
12.5.2	Included Performance Evaluation samples with field blanks as samples not to be used for duplicate sample analysis.
12.5.3	Modified “solid original and duplicate samples” to “solid original and solid duplicate samples”. Modified language regarding the reporting of a value in the Control Limit field.
12.5.4	Modified language to clarify this section on duplicate sample analysis.
12.6.1	Added language regarding the procedures to follow for laboratory control sample analysis.
12.6.3	Added language requiring the re-analysis of appropriate QC samples when reanalyzing samples as a result of an LCS falling outside control limits.
12.7.2	Added “non-distilled” before “standard solution”.

Exhibit D - Part E - Performance Based Methods (PBMS) for Classical Chemistry Parameters

This entire section is new to the SOW. This section contains the general requirements and data quality indicators for Performance Based Methods.

Exhibit D - Part F - Classical Chemistry Parameters for Hexavalent Chromium by Chelation Extraction and Atomic Absorption Spectroscopy

This entire section is new to the SOW.

Exhibit D - Part G - Classical Chemistry Parameters for Hexavalent Chromium by Ion Chromatography

This entire section is new to the SOW.

Exhibit D - Part H - Classical Chemistry Parameters for Total Petroleum Hydrocarbons Analysis

This entire section is new to the SOW.

Exhibit E

Section(s)	Change(s) - Exhibit E
1.0 - 1.3	Added an Overview Section to Exhibit E.
2.0 - 2.5	Added an Introduction Section to Exhibit E.
2.3, 4.5, 6.1.2, 6.3.2.2, 7.4.2.3, 8.4, 9.5.2, 9.5.3, 10.2, 10.2.1, 13.5, 13.5.1	Modified references to APOs and TPOs to read “EPA Project Officer”.
4.1	Removed language regarding specific billable analyses.
4.2	Added Classical Chemistry Parameters as part of the uniform procedures. Added language regarding the minimum QA/QC requirements for Inorganic and Classical Chemistry analyses.
4.4	Added language regarding the analysis of Performance Evaluations (PE) samples for both Inorganics and Classical Chemistry Parameters.
4.5	Modified language to “Instrument/Method” and “IDL/MDL” to include Method Detection Limits. Added language to specify that interelement corrections factors applied to ICP-AES.

Section(s)	Change(s) - Exhibit E
4.6	Removed post-digestion spikes from the list of “analytical samples”.
4.8	Modified the phrase “changed from may not be repeated prior to” to “must not be repeated prior”.
5.0-5.5.1.6	Added the section “Requirements for Method Acceptance for Performance Based Methods” to account for the addition of Classical Chemistry Parameters.
6.1	Added language regarding Contractor responsibilities for a Quality Assurance Program (QAP).
6.2	Added language regarding the framework for developing an QAP outline.
6.3.1, 7.4.1	Changed “Administrative Project Officer” to “Contracting Officer”.
6.3.1.1, 7.4.1.1	Added language regarding the submission of SOPs or QAPs within 7 days of written request by the EPA Project Officer.
6.3.2.1	Added language requiring the Contractor incorporate all amendments of the latest version of the QAP document.
6.3.2.2	Added language requiring the Contractor to submit a copy of the latest version of the QAP. Added “The Agency requestor will designate the recipients.” to this section.
6.4, 7.5, 8.6, 9.6, 10.3, 13.6	Modified language to include an electronic data audit. Removed reference of “such as a Cure Notice”.
7.1.2	Added language regarding the availability of SOPs to “designated recipients”.
7.3.3.2	Added “Classical Chemistry Parameters” to the list of sample preparation SOPs.
7.3.11	Modified language to include electronic deliverables.
8.2	Added language regarding the EPA’s “right to add and/or delete individual checks”.
8.3	Added language regarding the use of CCS results to measure overall performance.
9.5.3	Replaced EMSL/LV with QATS.
10.1	Modified language to include the review of the latest version of all SOPs.
11.2	Added language regarding the reviews to be done by the National Program Office.

Section(s)	Change(s) - Exhibit E
12.0 - 12.3	Added a section on Proficiency Testing regarding the measurement and evaluating of the Contractor's and method's analytical performance.
13.3	Added language regarding the components of an evidence audit.
13.3.1	Added language regarding the review of a Contractor's procedure to ensure the proper disposal of samples and waste.
14.0 - 14.4	Added sections regarding the submission of data for electronic data audits.
15.4.5	Added language regarding the availability of lifecycle management procedures to the EPA Project Officer.

Exhibit F

Modified language referencing "his/her representative" to "a designated representative".

Section(s)	Change(s) - Exhibit F
2.1.5	Removed this section and re-numbered remaining sections to account for the deletion.
2.1.7	Added the following items to be checked/noted on the DC-1 Form: • Presence or absence and condition of custody seals on shipping and/or sample containers, • Condition of the sample bottles, • Presence or absence of airbills, or airbill stickers, • Presence or absence of chain-of-custody records, • Presence or absence of Traffic Reports or packing lists, • Cooler Temperature, and • Presence or absence of sample tags.
2.5.6, 3.5.2.2	Modified the month/day/year example to read "01/01/1999".
2.5.8	Modified "documents" to "data reporting forms".
3.1.2.5	Added "Cooler temperature" to be checked/noted on the DC-1 Form.
3.6.2.1	Added language requiring Contractors to have procedures to ensure the maintenance of off-site backup and storage of electronic data.

Exhibit G

Added the following definitions to the glossary: Analytical Sequence, Blank, Contamination, Continuing Calibration Verification (CCV), Contract Compliance Screening (CCS), Contract Laboratory Program

(CLP), Contract Required Quantitation Limit (CRQL), Cyanide (Total), Date, EMMC Format, EPA Project Officer, Field QC, Inductively Coupled Plasma - Mass Spectroscopy (ICP-MS), Initial Calibration Verification (ICV), Initial Precision and Recovery, Inorganic Program Manager, Insufficient Quantity, Laboratory Fortified Blank, Matrix Effect, Method Detection Limit (MDL), Narrative (SDG Narrative), Percent Difference, Preparation Log, Quality Assurance Technical Support (QATS) Laboratory, Reagent Water, Relative Percent Difference (RPD), Representative, Sample, Sample Management Office (SMO), SOP, SOW, Standard Analysis, Target Analyte List (TAL), Time, and Tune.

Removed the following definitions from the glossary: Average Intensity, Coefficient of Variation (CV), Continuing Calibration, Correlation Coefficient, Flame Atomic Absorption, Graphite Furnace Atomic Absorption, Matrix Modifier, Method of Standard Additions, Post-Digestion Spike, Protocol, Quality Control Sample, Reagent Blank, and Total Metals.

Term(s)	**Change(s) - Exhibit G**
Absorbance	Simplified mathematical equation within definition.
Aliquot	Modified definition to include standards and solutions for preparation and analysis.
Analyte	Added “parameter” to account for the addition of Classical Chemistry Parameters.
Analytical Sample	Added “laboratory fortified blank (LFB)” to the list of analytical samples. Removed post-digestion spike samples from the list of analytical samples.
Analytical Spike	Modified language to describe analytical spike in more detail. Removed reference to “2 times the CRDL” and “for lead” from the first sentence.
Calibration	Modified language that calibration standards must be prepared using the same type of “acids” with “reagents”.
Calibration Blank	Modified the entire definition in Glossary.
Calibration Standards	Added language regarding the preparation of the solutions.
Independent Standard	Removed “initial”, which specified the type of calibration.
Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP-AES)	Modified “Inductively Coupled Plasma (ICP)” to “Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP-AES)”.
Initial Calibration	Modified “Instrument Calibration” to “Initial Calibration”.

Term(s)	Change(s) - Exhibit G
Interference Check Sample	Modified “Instrument Check Sample” to “Interference Check Sample”.
Interferents	Added parameter to account for the addition of Classical Chemistry Parameters.
Laboratory Control Sample (LCS)	Removed “aqueous and solid” from the beginning of the second sentence.
Linear Range, Linear Dynamic Range	Modified “ICP analytical curve” to “instrument response”.
Matrix	Added “or air filter” to include air samples.
Preparation Blank	Modified definition from “deionized, distilled water” to “reagent water”. Modified reference to the preparation so it is carried through the preparation as well as the analytical procedure. Removed language regarding treatment of aqueous and solid blanks.
Rounding Rules	Modified definition and example to describe the rounding of figures.
Run	Added language defining when a run is completed.
Sample Delivery Group (SDG)	Modified definition of SDG to include a 7 calendar day period during which field samples in a Case are received. Added language to address the assignment of PE samples to an SDG. Added “(excluding PE samples)” to the second bulleted item. Added language to require that “all samples and/or sample fractions assigned to an SDG must have been scheduled under the same contractual turnaround time”.
Sensitivity	Modified “emission intensity” to “instrument response”.

Exhibit H

This Exhibit has been divided into sub-sections to make it easier to use and reference.

Section(s)	Change(s) - Exhibit H
1.2	Added language regarding a blank field. Removed reference of using a delimiter as a place holder for fields that do not contain data.

Section(s)	Change(s) - Exhibit H
1.3	Added language regarding procedures to follow when values exceed the maximum length allowed.
1.4	Added a reference to Exhibit B for a description of rounding rules. Modified “EPA rounding rules” to “rounding rules”.
1.5	Added language regarding the development of a new data delivery strategy.
2.2	Modified language to summarize the purpose of the four record types.
3.2.2	Modified references to GFAA in the example to reference ICP-AES.
3.3	Added “Analyte Identifier” to the appropriate instances of Type 20 and 30 records. Added language allowing for the reporting of MDLs.
3.3, 4.3	Modified language to allow for the reporting of masses (in amu) and wavelengths.
4.1.3	Added language to include method detection limits in addition to instrument detection limits.
4.1.4	Added language to include method detection limits in addition to instrument detection limits. Added language to include ICP-MS. Modified language to allow for the inclusion of “other” (not only quarterly) linear range values.
4.1.5	Removed a reference to Graphite Furnace Atomic Absorption (GFAA).
4.1.6, 6.0	Modified “YY” to “YYYY” to account for the year 2000.
4.1.10	Added language regarding the Type 20 record for ICP-MS.
4.2.1	Added language to distinguish between ICP-AES and ICP-MS. Removed reference to GFAA.
8.1	Modified language to specify “3.5 inch high density 1.44 M-byte diskettes”. Removed language regarding “antiquated” means of transferring electronic data. Added language regarding the use of EPA approved alternative means of electronic transmission.
8.2	Added section regarding the splitting of data from one SDG onto multiple diskettes.

Section(s)	Change(s) - Exhibit H
8.3	Modified reference of diskette deliverable to an electronic file or deliverable. Incorporated language regarding data changes to electronic deliverables.
8.6	Removed the label requirements for 5.25 inch floppy disks.
8.7	Added a section introducing Section 9 (Record Listing).
9.1	Added “Use: Each production run will start with a record Type 10.” Modified Maximum Length and Format/Content of the Analysis Start Year from 2/YY to 4/YYYY. Modified “ILM04.0 (SOW)” to “ILM05.0 (SOW)”. Removed all references to Microwave Digestion and the Titrimetric Method from Footnote “2”. Added ICP-MS as an analysis type in Footnote “2”. Removed Flame and Furnace AA from the list of analysis types in Footnote “2”.
9.2	Modified Maximum Length and Format/Content of the Analysis Start Year from 2/YY to 4/YYYY. Modified Footnote “5” and “6” to reference the Cover Page of the hardcopy deliverable.
9.3	Modified Maximum Length and Format/Content of the Analysis Start Year from 2/YY to 4/YYYY. Modified Footnote “7” to reference the Cover Page and Form XIII-IN of the hardcopy deliverable. Modified Footnote “8” to account for the incorporation of air. Removed Footnote “9” dealing with “REJ” sample qualifiers for MSA. Added “M3" under “sample wt/vol units”. The appropriate footnotes were modified to reflect this change.

Section(s)	Change(s) - Exhibit H
9.3.1	Added “(RT0F5)”. Added reference “of hardcopy” to forms (LVM, LVC, PDO, PDF, LII, LIF). Added “These results are reported on FORM IIB - IN of hardcopy.” for LPC. Removed QC codes LD1 and LSO for Laboratory Duplicate Result and Laboratory Spiked Sample Background, respectively. Added QC codes FRM and FLD for Performance Evaluation (PE) Sample and Field Sample, respectively. Added a “Note:” to address all field samples, matrix spikes, and duplicates. Removed all QC codes (MS0, MS1, MS2, and MS3) and their definitions dealing with MSA. Added QC code and definition for the Laboratory Tune Sample (LTS). Modified references to forms in Exhibit B accordingly.
9.4	Added a field and corresponding footnote for Preparation Code. Adjusted the location of the delimiters accordingly. Added “and the source of the instrument calibration standards.” to Footnote “12”. Added a field for Preparation Start Minute and adjusted Footnote “14" accordingly. Adjusted the location of the delimiters accordingly. Modified Maximum Length and Format/Content of the Preparation Year and Year Received from 2/YY to 4/YYYY.
9.5	Modified reference to Form XIII-IN to Form XII-IN in Footnote “15”.

Section(s)	Change(s) - Exhibit H
9.6	Removed analyte identifier “I”. Added “MG/M³” as a concentration unit to account for the addition of air. Modified maximum length for Raw Data Average from 10 to 15. Removed “MSA-Tree Qualifier” field. Adjusted the location of the delimiters accordingly. Modified Footnote “16” to include metals. Modified Footnote “17” to include a reference to metals, a reference to Exhibit B, and the CAS number for cyanide. Removed language for “NAI” from Footnote “18”. Added language to the definition of “GTL” in Footnote “18”. Modified the definition of “NSQ” in Footnote “18”. Modified language in Footnote “19” referencing QC codes and samples reported on the Traffic Report. Modified Footnote “20” to reference Section 9.3.1 for QC codes and definitions.
	Modified the definitions of “T” and “F” in Footnote “21”. Added language regarding %R to Footnote “22”. Added language regarding the N qualifier to Footnote “23”. Added language regarding the upper and lower QC limits for the Spike Sample Recovery to Footnote “24”. Modified language regarding the “*” qualifier in Footnote “25”. Modified Footnote “26” to include 2 significant figures for values less than 10, and 3 significant figures for values greater than or equal to 10. Removed the language in Footnote “26” requiring the IDL to be reported to one decimal place. Modified “IDL” to “IDL/MDL” to allow for Method Detection Limit studies. This includes language in Footnote “27”. Added language to Footnote “28” regarding the units used to report the raw data average.

Section(s)	Change(s) - Exhibit H
9.7	Added language to support the option of reporting mass. Added “M” (mass) as a type of data. This includes adding language in Footnote “29". Modified the following (maximum lengths were 10): Max Length Contents 15 First Instrument Value 15 Second Instrument Value 15 Third Instrument Value 15 Fourth Instrument Value Removed language from Footnote “30” regarding the meaning of the letters A, F, H, and T. Modified the description of intensity in Footnote “31”. Added language regarding the minimum length that may be reported for instrument values in Footnote “31”. Removed footnote regarding MSA analyses.
9.9	Added language to support the option of reporting mass.
9.10	Deleted “Type of Background” field and other references to background correction. Adjusted the location of the delimiters accordingly.
10.0 - 10.3.2	Added sections regarding Classical Chemistry Parameters.

Appendix H - The appendix has been modified so that examples reflect changes made to Exhibit H. This includes changing all occurrences of “ILM04.0” to “ILM05.0”. All date references were changed from the two-digit format to a four-digit format. Any references to Flame or Gas Furnaces AA were removed, and the necessary changes were made to account for the addition of ICP-MS.